NORTH CAROLINA
DIVISION OF AIR QUALITY
Application Review

Region: Wilmington Regional Office
County: Brunswick
NC Facility ID: 1000067
Inspector's Name: Russell Morgan III
Date of Last Inspection: 09/15/2015
Compliance Code: 3 / Compliance - inspection

Permit Issue Date: xx

Facility Data

Applicant (Facility's Name): CPI USA North Carolina - Southport Plant

Facility Address:
CPI USA North Carolina - Southport Plant
1281 Power House Dr SE
Southport, NC 28461

SIC: 4911 / Electric Services
NAICS: 221112 / Fossil Fuel Electric Power Generation

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: 2D .0515 and .0521
NSPS: N/A
NESHAP: DDDDD
PSD: N/A
PSD Avoidance:
NC Toxics: N/A
112(r): N/A
Other: CSAPR

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Virginia (Ginny) Grace Senior Advisor, Environment (910) 343-6711 1281 Powerhouse Dr. SE Southport, NC 28461	David Groves Plant Manager (910) 343-6701 1281 Powerhouse Dr. SE Southport, NC 28461	Virginia (Ginny) Grace Senior Advisor, Environment (910) 343-6711 1281 Powerhouse Dr. SE Southport, NC 28461

Application Data

Application Number: 1000067.15B*
* Applications 1000076.13B & .16A (both reopen for cause), application 1000076.13C (second step significant), and application 1000067.16C (502(b)(10) change) were consolidated into the renewal application 1000067.15B.
Date Received: 09/23/2015
Application Type: Renewal
Application Schedule: TV-Renewal

Existing Permit Data
Existing Permit Number: 05884/T20
Existing Permit Issue Date: 4/18/2016
Existing Permit Expiration Date: 06/30/2016

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2014	4090.00	880.01	11.39	1537.80	203.08	72.49	12.50 [Hydrogen fluoride (hydrofluori]
2013	3565.00	834.02	9.97	1279.00	79.78	61.44	11.00 [Hydrogen fluoride (hydrofluori]
2012	2923.00	873.01	9.36	455.94	79.00	165.85	116.28 [Hydrogen chloride (hydrochlori]
2011	2454.70	849.53	8.02	376.31	62.01	138.58	98.94 [Hydrogen chloride (hydrochlori]
2010	1970.81	752.04	6.27	621.46	51.06	96.19	72.51 [Hydrogen chloride (hydrochlori]

Review Engineer: Rahul Thaker **Review Engineer's Signature:** **Date:** July 20, 2016	**Comments / Recommendations:** **Issue** 05884/T21 **Permit Issue Date:** xx **Permit Expiration Date:** xx

1. Purpose of the Application

CPI USA North Carolina, Southport, NC, has submitted an application (1000067.15B) to renew its current title V permit 05884T18, which expires on June 30, 2016.

The applicant submitted this application on September 16, 2015 (DAQ receipt date September 21, 2015), which is at least nine months prior to the expiration date of the current permit as stated above. Thus, the application is considered "timely" as defined in 02Q .0503(18). Moreover, the application has been determined to be "complete" as also defined in the above provision. Therefore, the facility has been deemed to have obtained an "application shield" as per 02Q .0512(b)(1). Thus, the current (i.e., existing) permit does not expire until the DAQ takes the final action on the application (i.e., the renewal permit is issued or denied) as per 02Q .0513(c).

Separately, the applicant has submitted four additional applications, as follows:

Application 1000067.13B has been submitted under the "reopener for cause" provision in 02Q .0517 on June 16, 2013 to revise the NCAC 02D .0530(u) stipulation in the Title V permit and to add the Part 70 monitoring for the CO BACT requirement.

Application 1000067.13C has been submitted as a second-step of 02Q .0501(c)(2) provision for the previously permitted sources, requiring Part 70 permitting, on May 6, 2013.

Application 1000067.16A has been submitted under the "reopener for cause" provision in 02Q .0517 on October 24, 2015. The permit revision was required to replace the vacated CAIR requirements in the Title V permit with the CSAPR requirements.

Application 1000067.16C has been submitted as a "502(b)(10) change" pursuant to .02Q .0523 provision on April 8, 2016 to obtain a permission for a second rail tie grinder and associated water spray bars.

The changes requested in each of these applications have been discussed herein along with the processing of renewal application 1000067.15B. Finally, these applications have been consolidated into the renewal application for processing; thus, only one permit revision (i.e., the renewed permit) is being issued.

2. Facility Description

CPI's Southport facility is a cogeneration facility providing electric power to Duke Energy Progress and steam to the nearby Archer Daniels Midland facility for process use. It is permitted with six boilers, each having 223 million Btu/hr nominal heat input rate. There are two electric generating units; each consists of three boilers, one steam turbine and one electric generator. The permitted fuels for each boiler are coal, natural gas, No. 2 and No. 4 fuel oils, tire-derived fuel (TDF), pelletized paper, flyash briquette, unadulterated wood, unadulterated biomass, adulterated resinated wood, and creosote-treated wood. The facility currently burns a combination of TDF (≈ 40%), wood (≈ 50%), and coal (≈ 10%) on a heat input basis. It needs to be stated here that each of the boilers is permitted to burn up to 50% of TDF on a heat input basis.

The boilers are equipped with rotating over-fire air (ROFA) system for NOx control. The existing permit also includes selective non-catalytic reduction (SNCR) system as an optional control for NOx emissions for each boiler, but the SNCR systems have not been installed yet. For SO_2 acid gases (like sulfuric acid mist) emissions, the boilers are equipped with furnace sorbent injection (FSI) system to comply with the alternate operating scenario. Finally, particulate matter (PM) emissions from each are controlled by individual bagfilters.

3. Permitting History

05884T11 - This air permit was issued on 7/20/2011, using the provision in NCAC 02Q .0513 "Permit Renewal and Expiration". The expiration date for this renewed Title V permit was 06/30/2016.

05884T12 - This air permit was issued on 5/9/2012, approving two wet slurry pugmills for flyash silos, using the provision in 15A NCAC 02Q .0515 "Minor Permit Modifications".

05884T13 - This air permit was issued on 7/22/2013, allowing burning of adulterated resinated wood in boilers, using the 1st step of 15A NCAC 02Q .0501(c)(2).

05884T14 - This air permit was issued on 11/25/2013 including §112(j) requirements for electric power producing boilers, using the provision in 15A NCAC 02Q .0515 "Minor Permit Modifications".

05884T15 - This air permit was issued on 12/18/2014 for previously permitted sources and control devices [through 1st step of 02Q .0501(c)(2)], using the provision in 15A NCAC 02Q .0516 "Significant Minor Permit Modification" [i.e., completing the 2nd step of 02Q .0501(c)(2)].

05884T16 - This air permit was issued on 2/13/2015, giving approval to burn creosote treated wood in the electric power producing boilers, using the provision in 15A NCAC 02Q .0515 "Minor Permit Modifications".

05884T17 - This air permit was issued on 4/2/15, modifying stack testing requirements for certain pollutants for electric power producing boilers, using the provision in 15A NCAC 02Q .0514 "Administrative Permit Amendments".

05884T18 - This air permit was issued on 12/18/15, approving the Best Available Control Technology under Senate Bill 3 for electric power producing boilers, using the provision in 15A NCAC 02Q .0316 "Administrative Permit Amendments".

05884T19 - This air permit was issued on 2/12/2016, approving the construction and operation of a new rail tie grinder, using the provision in 15A NCAC 02Q .0515 "Minor Permit Modifications".

05884T20 - This air permit was issued on 4/18/2016, including SO_2 emission limit and associated monitoring to comply with 02D .0501(c), using 1st step of 15A NCAC 02Q .0501(c)(2).

4. Statement of Compliance

Russell Morgan III of Wilmington Regional Office inspected the facility recently on 3/7/2015 and 9/15/2015. Each of the inspection reports indicates that the facility is in compliance with all requirements of its title V permit. Moreover, the responsible official has certified through submission of Form E5 that the facility is in compliance with all applicable regulations.

5. Regulatory Review

The current permit includes the following applicable requirements for various sources:

15A NCAC 02D .0501(c) Compliance with National Ambient Air Quality Standards
15A NCAC 02D .0515 Particulates from Miscellaneous Industrial Processes
15A NCAC 02D .0516 Sulfur Dioxide Emissions from Combustion Sources
15A NCAC 02D .0521 Control of Visible Emissions
15A NCAC 02D .0524 New Source Performance Standards
15A NCAC 02D .0530 Prevention of Significant Deterioration

15A NCAC 02D .0530(u) Use of Projected Actual Emissions to Avoid Applicability of Prevention of Significant Deterioration
15A NCAC 02D .0614 Compliance Assurance Monitoring
15A NCAC 02D .1109 112(j) Case-by-Case Maximum Achievable Control Technology
15A NCAC 02D .2403 Nitrogen Oxide Emissions
15A NCAC 02D .2404 Sulfur Dioxide
15A NCAC 02D .2405 Nitrogen Oxide Emissions During Ozone Season
NCGS 62-133.8(g) Control of Emissions [Senate Bill 3 Best Available Control Technology]

All of the above requirements are still applicable to the facility sources, except the requirements in 02D .02403 through 02D .2405 and the associated stipulations in the current permit, meet the requirements in both 15A NCAC 02Q .0500 and 40 CFR 70. Hence, these requirements minus the excepted requirements as stated above, will not be discussed (i.e. detail regulatory review is not included) herein, though if any stipulation in the current permit for any applicable requirements needs any update (due to changes in regulation, changing the stringency of monitoring due to previous compliance issues, etc.), they will be taken care of in this renewal permit. Moreover, the existing monitoring requirement for PSD needs to be revised for CO emissions to conform to the requirements in both 02Q .0508(f) and §70.6(a)(3). Finally, the currently applicable requirements under 02D .1109 v. the future applicable requirements in 40 CFR 63 Subpart DDDDD needs to be discussed. In summary, only the above specifically identified requirements / stipulations will be discussed as below:

<u>15A NCAC 02D .2403 Nitrogen Oxide Emissions</u>
<u>15A NCAC 02D .2404 Sulfur Dioxide</u>
<u>15A NCAC 02D .2405 Nitrogen Oxide Emissions During Ozone Season</u>

These are Clean Air Interstate Rules (CAIR) requirements for emissions of both NOx (annual and ozone season) and SO_2 for existing electric utility steam generating units [EGUs] (such as fossil fuel fired boilers producing electricity for sale and serving an electric generator with nameplate capacity of at least 25 MW). The permitted EGUs were subject to these CAIR requirements until recently. Effective February 1, 2016, these requirements have been repealed. It needs to be emphasized here that the CAIR requirements have been supplanted with the Cross-State Air Pollution Rule (CSAPR) requirements. This particular issue was identified by the DAQ in an email (Rahul Thaker, DAQ to Dave Groves, CPI Southport) dated August 25, 2015 and on this date, the DAQ provided a required 60-day notice to the applicant for "reopening" of its title V permit.

The background on these CAIR v. CSAPR is described below:

On July 11, 2008, in North Carolina v. EPA, the US Court of Appeals for the D. C. Circuit ("DC Circuit") had found the EPA's Clean Air Interstate Rule (CAIR) illegal. The Court vacated and remanded this rule. But, on rehearing, on December 23, 2008, the Court remanded without vacature the CAIR so that the EPA could remedy the rule consistent with the above July 2008 opinion. In brief, the DC Circuit had left the CAIR in place until the replacement of CAIR was promulgated.

The CAIR was promulgated, addressing the interstate pollution transport under the "good neighbor" provision included in §110(a)(2)(D)(i) of the CAA.

On August 8, 2011 (76 FR 48208), the EPA promulgated the CSAPR, replacing the CAIR, again combating the interstate transport of air pollution under this CAA provision.

The DC Circuit on December 30, 2011 stayed the CSAPR and asked the EPA to continue implementing the CAIR.

Subsequently on merits, on August 21, 2012, the same Court in EME Homer City Generation v. EPA, vacated the entire CSAPR.

On April 23, 2014, the US Supreme Court in EPA v. EME Homer City Generation, reversed the judgement of the DC Circuit in the CSAPR (that is, upheld the CSAPR) and remanded the case back to the DC Circuit.

The DC Circuit on October 23, 2014 issued an Order, lifting the stay of CSAPR.

Finally, on December 3, 2014 (79 FR 71663), EPA made changes to its regulations (such as tolling the existing deadlines) consistent with the above Order, making compliance with the CSAPR's Phase 1 and 2, starting January 1, 2015, and January 1, 2017, respectively. With respect to "sun-setting" the CAIR requirements, EPA has ruled that it will not be carrying out any functions or enforcing any requirements for any control period after December 31, 2014, for both annual and ozone season NOx, and for annual SO_2, as per §52.35(f) and §52.36(e), respectively.

Thus, consistent with the above, the DAQ has "reopened" the existing title V permit for this facility on October 24, 2015 after providing a required 60-day notice to the applicant on August 25, 2015, pursuant to 02Q .0517 "Reopening for Cause", to replace the CAIR permit requirements. **[Application 1000067.16A]**.

Unlike the CAIR, the CSAPR is a federal implementation plan (FIP) and is not enforceable by NC. The DAQ will, therefore, include the applicability of the CSAPR in the title V permit without any detailed requirements, as follows. It needs to be noted here that the CSAPR is also referred as the "Transport Rule (TR)" in EPA's regulations.

> For fossil fuel-fired fired boilers (ID Nos. ES-1-1A, ES-1-1B, ES-1-1C, ES-2-1A, ES-2-1B and ES-2-1C), the Permittee shall comply with all applicable requirements of 40 CFR Part 97, Subpart AAAAA "TR NOx Annual Trading Program", Subpart BBBBB "TR NOx Ozone Season Trading Program", and Subpart CCCCC "TR SO_2 Group 1 Trading Program".

In summary, in the renewed permit, the above CSAPR requirements will be referenced as federal-only requirement, without including any details.

<u>15A NCAC 02D .0530 Prevention of Significant Deterioration</u>

The existing stipulation for PSD in Section 2.1 A.4. of the current permit includes emissions limits establishing BACT for PM_{10}, SO_2, NOx, CO, and sulfuric acid mist, for each of the boilers (ID Nos. ES-1-1A, ES-1-1B, ES-1-1C, ES-2-1A, ES-2-1B and ES-2-1C). The stipulation also includes monitoring for all of the above pollutants, except CO. Because this applicable requirement (PSD) does not include any periodic monitoring for CO, the DAQ must "gap-fill" as per §70.6(a)(3)(B). This particular issue was identified by the DAQ on April 17, 2013 and on this date, the DAQ provided a required 60-day notice to the applicant for "reopening" its title V permit. Thus, the DAQ "reopened" the title V permit on June 16, 2013, in accordance with 02Q .0517 **[Application No. 1000067.13B]**. It needs to be stated here that the "reopening" also included revisions to the requirements under 02D .0530(u), as included in Section 2.1 A.5., but this issue was taken care of through the issuance of air permit 05884T15 on December 18, 2014.

These boilers are separately subject to the §112j requirements as included in Section 2.1 A.7 for CO among other pollutants. Specifically, the paragraph k. of this stipulation requires CO monitoring in the unit of ppm using the DAQ-certified CEMs.

For "gap-filling" the CO monitoring in Section 2.1 A.4 (PSD), the Permittee will be required to utilize the CO emissions data gathered using the certified CEMs for §112j requirements and calculate CO emissions in lb/million Btu for direct comparison with the CO BACT limit. The Permittee will be required to keep records in a logbook for calculated CO emissions rates in the unit of lb/million Btu. The Permittee will also be required to semi-annually report actual observed emissions rates of CO to the DAQ.

<u>15A NCAC 02D .1109 112j Case-by-Case Maximum Achievable Control Technology v. 15A NCAC 02D .1111 Maximum Achievable Control Technology</u>

The current title V permit in Section 2.1 A.7 includes a case-by-case determination under §112(j) of the Clean Air Act (CAA) for the existing boilers (ID Nos. ES-1-1A, ES-1-1B, ES-1-1C, ES-2-1A, ES-2-1B and ES-2-1C). The requirements of this determination are valid until May 19, 2019 and starting May 20, 2019, the Permittee is required to comply with the §112(d) standard, as included in 40 CFR 63 Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters".

Pursuant to 02Q .0526(o)(2), with the processing of the title V application, the DAQ is proposing to include all applicable requirements under this NESHAP in the renewal title V permit for the subject boilers, without determining whether the existing 112(j) requirements in the permit, with respect to "level of control (stringency)", are "substantially as effective" as the 112(d) standard [5D NESHAP], as per 02Q.0526(o)(3). It needs to be emphasized here that the 112(j) requirements for the subject boilers were based on NC's database for all existing boilers in this category (biomass category), located within the State only, at the time the determination under §112(j) was issued by the DAQ. Thus, any comparison with the nationwide standard under §112(d) [5D NESHAP] is likely lead to erroneous conclusions, where the universe of existing boilers in each category is much greater. Moreover, it would be difficult to compare and analyze the stringency of standards [112(j) v. 112(d)], especially when the subcategories for the standards are not identical, the form of the standard is different, and the averaging period is different, among many other factors.

The following includes discussions on requirements of the 5D NESHAP as applicable to the facility boilers and on how the applicant is planning to demonstrate compliance with each of the applicable requirements:

The Southport facility currently burns the following fuel: ~10% Coal, ~50% Wood (includes green & creosote treated rail ties), ~40% TDF on a heat input basis.

Based on the above fuels fired, the facility currently falls under the following subcategories:

- Stokers/sloped grate/other units designed to burn wet biomass/biomass-based solid [§63.7499(i)]
- Units designed to burn solid fuel [§63.7499(p)]

As defined in §63.7575, “Stoker/sloped grate/other unit designed to burn wet biomass” means the unit is in the units designed to burn biomass/bio-based solid subcategory that is either a stoker, sloped grate, or other combustor design and any of the biomass/bio-based solid fuel combusted in the unit exceeds 20 percent moisture on an annual heat input basis.

As defined in §63.7575, “Unit designed to burn solid fuel subcategory” means any boiler or process heater that burns only solid fuels or at least 10 percent solid fuel on an annual heat input basis in combination with liquid fuels or gaseous fuels.

<u>Emission Limitations, Work Practice Standards, and Operating Limits</u>

<u>Emissions Limitations</u> [§63.7500(a)(1) and Table 2 to the Subpart]

The following emissions limitations shall apply for each of these subcategories, except during start-up and shutdown:

Stokers/sloped grate/other units designed to burn wet biomass/biomass-based solid

- CO - 720 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average [using CEMS]
  OR
  CO - 1.4 lb per million Btu steam output [3-run average, stack test]

- Filterable PM (or TSM) - 3.7E-02 lb per million Btu of heat input; or (2.4E-04 lb per million Btu of heat input)
  OR
  Filterable PM (or TSM) - 4.3E-02 lb per million Btu of steam output; or (2.8E-04 lb per million Btu of steam output)

Units designed to burn solid fuel

- HCl - 2.2E-02 lb per million Btu of heat input
  OR

HCl - 2.5E-02 lb per million Btu of steam output

- Mercury - 5.7E-06 lb per million Btu of heat input
  OR
  Mercury - 6.4E-06 lb per million Btu of steam output

If the Permittee opts to comply with the output-based limits (lb per million Btu of steam output) for any pollutant, it shall calculate total steam output using equation 21 of §63.7575.

Work Practice Standards [§63.7500(a)(1) and Table 3 to the Subpart]

The following work practice standards shall apply:

- Conduct a tune-up of the boiler annually as specified in §63.7540. Units in either the Gas 1 or Metal Process Furnace subcategories will conduct this tune-up as a work practice for all regulated emissions under this Subpart. Units in all other subcategories (except Gas 1 or Metal Process Furnace subcategories) will conduct this tune-up as a work practice for dioxins/furans.

- Must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table, satisfies the energy assessment requirement. A facility that operated under an energy management program developed according to the ENERGY STAR guidelines for energy management or compatible with ISO 50001 for at least one year between January 1, 2008 and the compliance date specified in §63.7495 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items a. to e. appropriate for the on-site technical hours listed in §63.7575:

  a. A visual inspection of the boiler or process heater system.
  b. An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints.
  c. An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater owner/operator.
  d. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage.
  e. A review of the facility's energy management program and provide recommendations for improvements consistent with the definition of energy management program, if identified.
  f. A list of cost-effective energy conservation measures that are within the facility's control.
  g. A list of the energy savings potential of the energy conservation measures identified.
  h. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

- Adhere to all applicable startup procedures.

  a. You must operate all CMS during startup.
  b. For startup of a boiler or process heater, you must use one or a combination of the following clean fuels: Natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, fuel oil-soaked rags, kerosene, hydrogen, paper, cardboard, refinery gas, liquefied petroleum gas, clean dry biomass, and any fuels meeting the appropriate HCl, mercury and TSM emission standards by fuel analysis.
  c. You have the option of complying using either of the following work practice standards:
     (1) If you choose to comply using definition (1) of "startup" in §63.7575, once you start firing fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of the applicable control devices except limestone injection in fluidized bed combustion (FBC) boilers, dry scrubber, fabric filter, and selective catalytic reduction (SCR). You must start your limestone injection in FBC boilers, dry scrubber, fabric filter, and SCR systems as expeditiously as possible. Startup ends when steam or heat is supplied for any purpose, OR

(2) If you choose to comply using definition (2) of "startup" in §63.7575, once you start to feed fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of the applicable control devices so as to comply with the emission limits within 4 hours of start of supplying useful thermal energy. You must engage and operate PM control within one hour of first feeding fuels that are not clean fuels. You must start all applicable control devices as expeditiously as possible, but, in any case, when necessary to comply with other standards applicable to the source by a permit limit or a rule other than this Subpart that require operation of the control devices. You must develop and implement a written startup and shutdown plan, as specified in §63.7505(e).

d. You must comply with all applicable emission limits at all times except during startup and shutdown periods at which time you must meet this work practice. You must collect monitoring data during periods of startup, as specified in §63.7535(b). You must keep records during periods of startup. You must provide reports concerning activities and periods of startup, as specified in §63.7555.

- Adhere to all applicable shutdown procedures.

a. You must operate all CMS during shutdown.
While firing fuels that are not clean fuels during shutdown, you must vent emissions to the main stack(s) and operate all applicable control devices, except limestone injection in FBC boilers, dry scrubber, fabric filter, and SCR but, in any case, when necessary to comply with other standards applicable to the source that require operation of the control device. If, in addition to the fuel used prior to initiation of shutdown, another fuel must be used to support the shutdown process, that additional fuel must be one or a combination of the following clean fuels: Natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, refinery gas, and liquefied petroleum gas. You must comply with all applicable emissions limits at all times except for startup or shutdown periods conforming with this work practice. You must collect monitoring data during periods of shutdown, as specified in §63.7535(b). You must keep records during periods of shutdown. You must provide reports concerning activities and periods of shutdown, as specified in §63.7555.

<u>Operating Limits</u> [§63.7500(a)(2) and Table 4 to the Subpart]

The Permittee shall comply with the following operation limits:

Fabric filter control on a boiler or process heater not using a PM CPMS

- Maintain opacity to less than or equal to 10 percent opacity or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation (daily block average);
OR
- Install and operate a bag leak detection system according to §63.7525 and operate the fabric filter such that the bag leak detection system alert is not activated more than 5 percent of the operating time during each 6-month period.

Performance testing

- For boilers and process heaters that demonstrate compliance with a performance test, maintain the 30-day rolling average operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during the performance test.

<u>Miscellaneous</u>

- If the Permittee wishes to establish and monitor an alternative operating limit or an alternative monitoring parameter, the Permittee shall apply to the EPA Administrator for approval of alternative monitoring under §63.8(f). [§63.7500(a)(2)]

- At all times, the Permittee shall operate and maintain any affected source (as defined in §63.7490), including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [§63.7500(a)(3)]

- As provided in §63.6(g), EPA may approve use of an alternative to the work practice standards in this Section. [§63.7500(b)]

- These standards apply at all times the affected unit is operating, except during periods of startup and shutdown during which time the Permittee shall comply only with items 5 and 6 of Table 3 to this Subpart. [§63.7500(f)]

General Compliance Requirements [§63.7505]

- The Permittee shall be in compliance with the emission limits, work practice standards, and operating limits in this Subpart. These emissions and operating limits apply to you at all times the affected unit is operating except for the periods noted in §63.7500(f).

- The Permittee shall demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or continuous monitoring systems (CMS), including a continuous emission monitoring system (CEMS), or particulate matter continuous parameter monitoring system (PM CPMS), where applicable. The Permittee may demonstrate compliance with the applicable emission limit for hydrogen chloride (HCl), mercury, or total selected metals (TSM) using fuel analysis, if the emission rate calculated according to §63.7530(c) is less than the applicable emission limit. Otherwise, the Permittee shall demonstrate compliance for HCl, mercury, or TSM using performance stack testing, if subject to an applicable emission limit listed in Table 2 to this Subpart.

- If the Permittee demonstrates (initial) compliance with any applicable emission limit through performance testing and subsequent compliance with operating limits through the use of CPMS, or with a CEMS or COMS, the Permittee shall develop a site-specific monitoring plan according to the requirements in paragraphs (d)(1) through (4) of this Section for the use of any CEMS, COMS, or CPMS. This requirement also applies if the Permittee petitions the EPA Administrator for alternative monitoring parameters under §63.8(f).

- If the Permittee has an applicable emission limit, and he/she chooses to comply using definition (2) of "startup" in §63.7575, the Permittee shall develop and implement a written startup and shutdown plan (SSP) according to the requirements in Table 3 to this Subpart. The SSP must be maintained onsite and available upon request for public inspection.

Initial Compliance Requirements [§63.7510]

- For each boiler that is required or that the Permittee elects to demonstrate compliance with any of the applicable emission limit in Table 2 of this Subpart through performance (stack) testing, initial compliance requirements shall include all the following:

    - Conduct performance tests according to §63.7520 and Table 5 to this Subpart.
    - Conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to §63.7521 and Table 6 to this Subpart, except as specified in paragraphs (a)(2)(i) through (iii) of this Section.
    - Establish operating limits according to §63.7530 and Table 7 to this Subpart.
    - Conduct CMS performance evaluations according to §63.7525.

- For each boiler or process heater that the Permittee elects to demonstrate compliance with the applicable emission limits in Table 2 to this Subpart for HCl, mercury, or TSM through fuel analysis, the Permittee's initial compliance requirement is to conduct a fuel analysis for each type of fuel burned in a boiler or process heater according to §63.7521 and Table 6 to this Subpart and establish operating limits according to §63.7530 and Table 8 to this Subpart. The fuels described in paragraph (a)(2)(i) and (ii) of this Section are exempt from the fuel analysis and operating limit requirements. The fuels described in paragraph (a)(2)(ii) of this Section are exempt from the chloride fuel analysis and operating limit requirements. Boilers that use a CEMS for mercury or HCl are exempt from the performance testing and operating limit requirements specified in paragraph (a) of this Section for the HAP for which CEMS are used.

- If the boiler or process heater is subject to a carbon monoxide (CO) limit, the Permittee's initial compliance demonstration for CO is to conduct a performance test for CO according to Table 5 to this Subpart or conduct a performance evaluation of your continuous CO monitor, if applicable, according to §63.7525(a). Boilers that use a CO CEMS to comply with the applicable alternative CO CEMS emission standard listed in Table to this Subpart, as specified in §63.7525(a), are exempt from the initial CO performance testing and oxygen concentration operating limit requirements specified in paragraph (a) of this Section.

- If the boiler or process heater is subject to a PM limit, initial compliance demonstration for PM shall include a performance test in accordance with §63.7520 and Table 5 to this Subpart.

- For existing affected sources (as defined in §63.7490), the Permittee shall complete the initial compliance demonstrations, as specified in paragraphs (a) through (d) of this Section, no later than 180 days after the compliance date that is specified for your source in §63.7495 and according to the applicable provisions in §63.7(a)(2) as cited in Table 10 to this Subpart, except as specified in paragraph (j) of this Section. The Permittee shall complete an initial tune-up by following the procedures described in §63.7540(a)(10)(i) through (vi) no later than the compliance date specified in §63.7495, except as specified in paragraph (j) of this Section. The Permittee shall complete the one-time energy assessment specified in Table 3 to this Subpart no later than the compliance date specified in §63.7495.

  Based on the above, the following can be concluded: Since the compliance date for the existing boilers at CPI Southport facility is May 20, 2019, the deadlines for conducting (i) initial stack testing is 180 days from May 20, 2019, (ii) initial tune-up is May 20, 2019, and (iii) one-time energy assessment is May 20, 2019.

- For affected sources, as defined in §63.7490, that switch subcategories consistent with §63.7545(h) after the initial compliance date, the Permittee shall demonstrate compliance within 60 days of the effective date of the switch, unless the Permittee had previously conducted his/her compliance demonstration for this subcategory within the previous 12 months.

Subsequent Compliance Requirements [§63.7515]

- The Permittee shall conduct all applicable performance tests according to §63.7520 on an annual basis, except as specified in paragraphs (b) through (e), (g), and (h) of this Section. Annual performance tests shall be completed no more than 13 months after the previous performance test, except as specified in paragraphs (b) through (e), (g), and (h) of this Section.

- If your performance tests for a given pollutant for at least 2 consecutive years show that your emissions are at or below 75 percent of the emission limit (or, in limited instances as specified in Table 2 to this Subpart, at or below the emission limit) for the pollutant, and if there are no changes in the operation of the individual boiler or air pollution control equipment that could increase emissions, the Permittee may choose to conduct performance tests for the pollutant every third year. Each such performance test must be conducted no more than 37 months after the previous performance test. If the Permittee elects to demonstrate compliance using emission averaging under §63.7522, the Permittee shall continue to conduct performance tests annually. The requirement to test at maximum chloride input level is waived unless the stack test is conducted for HCl. The requirement to test at maximum mercury input level is waived unless the stack test is conducted for mercury. The requirement to test at maximum TSM input level is waived unless the stack test is conducted for TSM.

- If a performance test shows emissions exceeded the emission limit or 75 percent of the emission limit (as specified in Table 2 to this Subpart) for a pollutant, the Permittee shall conduct annual performance tests for that pollutant until all performance tests over a consecutive 2-year period meet the required level (at or below 75 percent of the emission limit, as specified in Table 2 to this Subpart).

- If the Permittee is required to meet an applicable tune-up work practice standard, the Permittee shall conduct an annual performance tune-up according to §63.7540(a)(10). Each annual tune-up specified in §63.7540(a)(10) must be no more than 13 months after the previous tune-up.

- If the Permittee demonstrates compliance with the mercury, HCl, or TSM based on fuel analysis, the Permittee shall conduct a monthly fuel analysis according to §63.7521 for each type of fuel burned that is subject to an emission limit in Table 2 to this Subpart. The Permittee may comply with this monthly requirement by completing the fuel analysis any time within the calendar month as long as the analysis is separated from the previous analysis by at least 14 calendar days. If the Permittee burns a new type of fuel, the Permittee shall conduct a fuel analysis before burning the new type of fuel in your boiler or process heater. The Permittee shall still meet all applicable continuous compliance requirements in §63.7540. If each of 12 consecutive monthly fuel analyses demonstrates 75 percent or less of the compliance level, the Permittee may decrease the fuel analysis frequency to quarterly for that fuel. If any quarterly sample exceeds 75 percent of the compliance level or the Permittee begins burning a new type of fuel, the Permittee shall return to monthly monitoring for that fuel, until 12 months of fuel analyses are again less than 75 percent of the compliance level. If sampling is conducted on one day per month, samples should be no less than 14 days apart, but if multiple samples are taken per month, the 14-day restriction does not apply.

- The Permittee shall report the results of performance tests and the associated fuel analyses within 60 days after the completion of the performance tests. This report shall also verify that the operating limits for each boiler or process heater have not changed or provide documentation of revised operating limits established according to §63.7530 and Table 7 to this Subpart, as applicable. The reports for all subsequent performance tests shall include all applicable information required in §63.7550.

- For affected sources (as defined in §63.7490) that have not operated since the previous compliance demonstration and more than one year has passed since the previous compliance demonstration, the Permittee shall complete the subsequent compliance demonstration, if subject to the emission limit in Table 2 to this Subpart, no later than 180 days after the re-start of the affected source and according to the applicable provisions in §63.7(a)(2) as cited in Table 10 to this Subpart. The Permittee shall complete a subsequent tune-up by following the procedures described in §63.7540(a)(10)(i) through (vi) and the schedule described in §63.7540(a)(13) for units that are not operating at the time of their scheduled tune-up.

- If the Permittee operates a CO CEMS that meets the Performance Specifications outlined in §63.7525(a)(3) of this Subpart to demonstrate compliance with the applicable alternative CO CEMS emission standard listed in Table 2 to this Subpart, the Permittee is not required to conduct subsequent CO performance tests and is not subject to the oxygen concentration operating limit requirement specified in §63.7510(a).

Stack Tests Procedures [§63.7520]

- The Permittee shall conduct all performance tests according to §63.7(c), (d), (f), and (h). The Permittee shall also develop a site-specific stack test plan according to the requirements in §63.7(c). The Permittee shall conduct all performance tests under such conditions as the Administrator specifies to the Permittee, based on the representative performance of each boiler or process heater for the period being tested. Upon request, the Permittee shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests.

- The Permittee shall conduct each performance test according to the requirements in Table 5 to this Subpart.

- The Permittee shall conduct each performance test under the specific conditions listed in Tables 5 and 7 to this Subpart. The Permittee shall conduct performance tests at representative operating load conditions while burning the type of fuel or mixture of fuels that has the highest content of chlorine and mercury, and TSM if the Permittee is opting to comply with the TSM alternative standard and the Permittee is required to demonstrate initial compliance and establish operating limits based on these performance tests. These requirements could result in the need to conduct more than one performance test. Following each performance test and until the next performance test, the Permittee shall comply with the operating limit for operating load conditions specified in Table 4 to this Subpart.

Fuel Analysis [§63.7521]

- The Permittee shall conduct fuel analyses for chloride and mercury according to the procedures in paragraphs (b) through (e) of this Section and Table 6 to this Subpart, as applicable. The Permittee shall also conduct fuel analyses for TSM if you are opting to comply with the TSM alternative standard. The Permittee is not required to conduct fuel analyses for fuels used for only startup, unit shutdown, and transient flame stability purposes. The Permittee is required to conduct fuel analyses only for fuels and units that are subject to emission limits for mercury, HCl, or TSM in Table 2 to this Subpart.

  CPI Southport is combusting a fuel mixture of coal, wood and TDF. Thus, each of these fuels will be required to be analyzed for mercury and chloride, as required for initial compliance pursuant to §63.7510(a)(2). CPI will not be using fuel analysis for subsequent compliance and instead use stack testing, as allowed under §63.7515(a).

- The Permittee shall develop a site-specific fuel monitoring plan according to the procedures and requirements in paragraphs (b)(1) and (2) of this Section, if the Permittee is required to conduct fuel analyses as specified in §63.7510.

Emissions Averaging [§63.7522]

- As an alternative to meeting the requirements of §63.7500 for PM (or TSM), HCl, or mercury on a boiler-specific basis, if the Permittee has more than one existing boiler or process heater in any subcategories located at the facility, the Permittee may be able to demonstrate compliance by emissions averaging, if your averaged emissions are not more than 90 percent of the applicable emission limit, according to the procedures in this Section. The Permittee may not include new boilers in an emissions average.

  CPI Southport has stated to determine compliance with emissions limits for these pollutants on an averaging basis for all boilers in the same subcategory instead of meeting on a boiler-specific basis.

- For a group of two or more existing units in the same subcategory, each of which vents through a single common stack, you may average PM (or TSM), HCl, or mercury emissions to demonstrate compliance with the limits for that pollutant in Table 2 to this Subpart if you satisfy the requirements in paragraph (i) or (j) of this Section.

  For a group of two or more existing units in the same subcategory, where exhaust of affected units are each individually controlled and then sent to a common stack, the Permittee may elect to conduct performance tests according to procedures in §63.7520 in the common stack. In addition, the Permittee can meet the applicable operating limits specified in §63.7540 and Table 8 to the Subpart for each emission control system except that, if each unit venting to the common stack has an applicable opacity operating limit, then a single continuous opacity monitoring system may be located in the common stack instead of in each duct to the common stack.

  CPI Southport will include emissions averaging for boilers in Unit 1 (ES-1-1A, ES-1-1B and ES-1-1C) and Unit 2 (ES-2-1A, ES-2-1B and ES-2-1C) to meet the emission limits for in Table 2 to the Subpart. In addition, CPI will meet applicable COMs and CO CEMS operating limits for COMs and CEMS located on each of these Units.

Monitoring, Installation, Operation, and Maintenance Requirements [§63.7525]

- If the boiler is subject to a CO emission limit in Table 2 to this Subpart, the Permittee shall install, operate, and maintain an oxygen analyzer system, as defined in §63.7575, or install, certify, operate and maintain continuous emission monitoring systems for CO and oxygen (or carbon dioxide (CO_2)) according to the procedures in paragraphs (a)(1) through (6) of this Section.

- If any boiler is subject to an opacity operating limit in this rule and is not otherwise required or elect to install and operate a PM CPMS, PM CEMS, or a bag leak detection system, the Permittee shall install, operate, certify and maintain each COMS according to the procedures in paragraphs (c)(1) through (7) of this Section by the compliance date specified in §63.7495.

Continuous Compliance [§63.7540]

- The Permittee shall demonstrate continuous compliance with each emission limit in Table 2 to this Subpart, the work practice standards in Table 3 to this Subpart, and the operating limits in Table 4 to this Subpart that applies to the affected boilers, according to the methods specified in Table 8 to this Subpart and paragraphs (a)(1) through (19) of this Section.

  Following the date on which the initial compliance demonstration is completed or is required to be completed under §§63.7 and 63.7510, whichever date comes first, operation above the established maximum or below the established minimum operating limits shall constitute a deviation of established operating limits listed in Table 4 of this Subpart except during performance tests conducted to determine compliance with the emission limits or to establish new operating limits. Operating limits shall be confirmed or reestablished during performance tests.

  As specified in §63.7555(d), the Permittee shall keep records of the type and amount of all fuels burned in each boiler during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would result in either of the following:

  Equal to or lower emissions of HCl, mercury, and TSM than the applicable emission limit for each pollutant, if you demonstrate compliance through fuel analysis.

  Equal to or lower fuel input of chlorine, mercury, and TSM than the maximum values calculated during the last performance test, if you demonstrate compliance through performance testing.

  To demonstrate compliance with the applicable alternative CO CEMS emission limit listed in Table 2 to this Subpart, the Permittee shall must meet the requirements in paragraphs (a)(8)(i) through (iv) of this Section, as follows.

  Continuously monitor CO according to §§63.7525(a) and 63.7535.
  Maintain a CO emission level below or at applicable alternative CO CEMS-based standard in Table 2 to this Subpart at all times the affected unit is subject to numeric emission limits.
  Keep records of CO levels according to §63.7555(b).

  The Permittee shall conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) of this Section. The Permittee shall conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.

  If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.

- You must report each instance in which you did not meet each emission limit and operating limit in Tables 1 through 4 or 11 through 13 to this Subpart that apply to you. These instances are deviations from the

emission limits or operating limits, respectively, in this Subpart. These deviations must be reported according to the requirements in §63.7550.

- For startup and shutdown, the Permittee shall meet the work practice standards according to items 5 and 6 of Table 3 of this Subpart.

Notifications [§63.7545]

- The Permittee shall submit to the Administrator all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply to the affected boilers by the dates specified.

- As specified in §63.9(b)(2), if the startup of the affected source is before January 31, 2013, the Permittee shall submit an Initial Notification not later than 120 days after January 31, 2013.

- If the Permittee is required to conduct a performance test, he/she shall submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin.

- If the Permittee is required to conduct an initial compliance demonstration as specified in §63.7530, the Permittee shall submit a Notification of Compliance Status according to §63.9(h)(2)(ii). For the initial compliance demonstration for each boiler, the Permittee shall submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all boilers at the facility according to §63.10(d)(2). The Notification of Compliance Status report shall contain all the information specified in paragraphs (e)(1) through (8) of this Section, as applicable.

- If the Permittee has switched fuels or made a physical change to the boiler and the fuel switch or physical change resulted in the applicability of a different subcategory, the Permittee shall provide notice of the date upon which you switched fuels or made the physical change within 30 days of the switch/change. The notification must identify:

  The name of the owner or operator of the affected source, as defined in §63.7490, the location of the source, the boiler(s) and process heater(s) that have switched fuels, were physically changed, and the date of the notice.
  The currently applicable subcategory under this Subpart.
  The date upon which the fuel switch or physical change occurred.

Reporting [§63.7550]

- The Permittee shall submit each report in Table 9 to the Subpart that applies to the affected boilers.

- Unless the EPA Administrator has approved a different schedule for submission of reports under §63.10(a), the Permittee shall submit each report, according to paragraph (h) of this Section, by the date in Table 9 to this Subpart and according to the requirements in paragraphs (b)(1) through (4) of this Section.

- A compliance report shall contain the information as applicable in paragraph (c) of this Section depending on how the facility chooses to comply with the limits set in this rule.

- For each deviation from an emission limit or operating limit in this Subpart that occurs at an individual boiler where the Permittee is not using a CMS to comply with that emission limit or operating limit, or from the work practice standards for periods if startup and shutdown, the compliance report shall additionally contain the information required in paragraphs (d)(1) through (3) of this Section.

- The Permittee shall submit the reports according to the procedures specified in paragraphs (h)(1) through (3) of this Section.

Record keeping [§§63.7555 and 63.7560]

- The Permittee shall keep a copy of each notification and report that he/she submitted to comply with this Subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that he/she submitted, according to the requirements in §63.10(b)(2)(xiv).

- The Permittee shall keep records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in §63.10(b)(2)(viii).

- For each CEMS, COMS, and continuous monitoring system, the Permittee shall keep records according to paragraphs (b)(1) through (5) of this Section.

- The Permittee shall keep the records required in Table 8 to this Subpart including records of all monitoring data and calculated averages for applicable operating limits, such as opacity, pressure drop, pH, and operating load, to show continuous compliance with each emission limit and operating limit that applies to the affected boiler.

- For each boiler subject to an emission limit in Table 2 to this Subpart, the Permittee shall also keep the applicable records in paragraphs (d)(1) through (11) of this Section.

- If the Permittee elects to average emissions consistent with §63.7522, the Permittee shall additionally keep a copy of the emission averaging implementation plan required in §63.7522(g), all calculations required under §63.7522, including monthly records of heat input or steam generation, as applicable, and monitoring records consistent with §63.7541.

- The records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1).

- As specified in §63.10(b)(1), the Permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

- The Permittee shall keep each record on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). The Permittee can keep the records off site for the remaining 3 years.

6. To complete a "second-step" of 02Q .0501(c)(2) provision for sources approved through issuance of air quality permit 05884T12 [Application No. 1000067.13C].

The Permittee obtained a construction and operation permit 05884T12 on May 9, 2012 in accordance with 15A NCAC 02Q .0300 to replace the existing pugmills on each of the flyash silos (ES-3A and ES-3B) with new, more efficient, "Dustmaster" pugmills. The Permittee wishes to obtain a title V permit for these previously permitted sources.

The following includes a summary of emissions rates due to flyash handling:

Pollutant	Actual Emission Rate Tons/yr	Potential Emission Rate Before Control Tons/yr	Potential Emission Rate After Control Tons/yr
PM	0.0512	0.92	0.14
PM_{10}	0.0179	0.32	0.05
$PM_{2.5}$	0.00272	0.05	0.01

The above emissions rates are based upon appropriate emissions factors (Section 13.2.4, "Aggregate Handling and Storage Piles", AP-42, 11/06). They incorporate control efficiency of 99.9% for bagfilter on flyash silos and 85% control using pug mills when loading into the trucks.

The flyash silos with wet slurry pug mills are currently subject to 20 percent opacity limit (02D .0521) and 0.032 lb/hr PM limit (02D .0530).

The existing monitoring requirements for visible emissions (VE) include once a week VE observation and associated record keeping, meeting the provision of §70.6(a)(3). However, this existing monitoring requirement will be updated to require reestablishment of "normal" within 30 days of the issuance of the revised title V permit.

With respect to the monitoring requirements in 02D .0530, the existing permit includes annual inspection requirement for both cyclone and bagfilter, and record keeping, meeting the provision in §70.6(a)(3). The DAQ believes that these requirements are adequate. Thus, no changes to these existing requirements are justified.

Request for CAM Modification

In addition, as a part of this application processing, the Permittee has requested to modify the existing CAM plan requirement in Section 2.1 A.6. of the current permit.

The existing CAM includes a Quality Improvement Plan (QIP) threshold of six excursions in any six-month period. An excursion is defined as visible emissions equal or greater than 15 percent opacity (six-minute average).

The Permittee states that the above excursion threshold is not appropriate for CPI Southport facility boilers, and provides the following rationale to support its arguments and requests that the appropriate threshold would be accumulation of excursions exceeding 1 percent duration of the operating time for a six-month period, excluding periods of start-up, shut-down, and malfunction.

The Permittee argues that original CAM plan requirement was proposed in 2008 which was based on guidance which recommended very limited number of excursions. It further argues that, due to the kind of fuels burned including wood and the type of PM control device used (bagfilter), occasional opacity spikes would occur if the carry-over ignites a bag, during some fuel shifts, and during start-up or shut-down. As a result, per Permittee, numerous short-term spikes above the currently defined excursion can occur triggering unnecessary QIP requirements.

The Permittee provides the following examples for short-term spikes in opacity for various six-month periods from January 2012 through June 2013.

For the first six-month period of 2012, there were 19 separate six-minute excursions (i.e., opacity above 15%) while there were a total of 24 separate six-minute excursions for the second six-month period of 2012. Out of these 43 incidences, 14 were attributed to start-up, 4 occurred due to cleaning of the equipment, 2 occurred due to load shift, 20 attributed to malfunction (burnt bags), 2 were due to extremely heavy rain, and 1 occurred when ash was entrained while a hopper was being emptied. The total duration of these excursions amounted to 258 minutes, which is approximately 0.l percent of the operating time.

For the first six-month period of 2013, there were a total of 81 six-minute excursions during which opacity was over 15 percent. Of these 81 excursions, 35 occurred during start-up events, 41 were due to malfunction such as burnt bags or extremely heavy rain, and 5 occurred during cleaning of process equipment such as soot blowing. The total duration of 486 minutes for all these excursions amounted to 0.2 percent of the operating time.

For the latest calendar year for 2015, specific numbers on excursions (six-minute averages above 15% opacity) are not available. However, as per the Permittee, the numbers of excursions were much less than that of 2012.

Finally, the Permittee cites two specific examples for QIPs for electric power producing boilers at Edgecombe Genco (ID No. 3300146)[1] and Roanoke Valley Energy Facility (ID No. 4200174)[2], emphasizing that DAQ had previously approved the QIP for these facilities in the form of time-based threshold, instead of in the form of number of excursions, as 1 percent of the operating time within a six-month period with periods of start-up, shut-downs and malfunction, excluded from the excursions.

The DAQ has evaluated the above rationale and the actual excursions data on numbers of excursions, and believes that defining QIP in the form of numbers of excursions is not appropriate for the facility boilers and instead it believes that the better form for QIP would be a time-based threshold, in the form of 1 percent duration of the operating time for any six-month period, excluding periods of start-up, shut-down, and malfunction. Therefore, the DAQ will revise the QIP accordingly for facility boilers.

7. To obtain an operating permit for a second rail tie grinder and associated water spray bars (ID No. RTG-2), previously submitted as a "502(b)(10) change" [Application No. 1000067.16C].

An operating permit for the second rail tie grinder and associated spray bars (ID No. RTG-2) needs to be issued. This equipment was initially deemed by the DAQ as a valid "502(b)(10) change", as submitted by the applicant on April 8, 2016. This renewal permit will allow the agency to process the change in accordance with all applicable provisions under Part 70 including permit shield; thus ensuring a proper operating permit for the equipment.

The equipment will grind whole rail ties and be located adjacent to the wood handling and fuel storage areas. As detailed in DAQ's Applicability Determination (letter dated October 30, 2015), the (mobile) engine associated with the grinder is exempt from the stationary source permitting provision (Title I of the CAA), but the tub grinder is not. Thus, the renewal permit will add the tub grinder with specific applicable requirements, as it has a potential to emit for particulate matter emissions greater than five tons/year cut-off in 02Q .0503(8). The rail tie grinder is subject to the following regulations:

15A NCAC 02D .0515 Particulates from Miscellaneous Industrial Processes

This regulation establishes an allowable emission rate for particulate matter from any stack, vent, or outlet resulting from any industrial process for which no other emission control standards are applicable. The regulation applies to Total Suspended Particulate (TSP) or PM less than 100 micrometers (µm). The allowable emission rate is calculated using the following equation:

$E = 4.10 \times P^{0.67}$ for $P \leq 30$ tph
$E = 55 \times P^{0.11} - 40$ for $P > 30$ tph

where, E = allowable emission rate (lb/hr)
P = process weight rate (tons/hr)

Based on a maximum grinder throughput of 60 tons/hr, the allowable emission rate is estimated to be 46.3 lb/hr. Using the emissions factors described below (See Section for PSD applicability below), the expected hourly PM emissions are 0.72 lb (or 3.15 tons/yr). Compliance with this standard is expected.

Because no control efficiency has been claimed for the water sprays bars (ID No. CD-11) in the emissions calculations, their installation/operation is considered optional and no inspection and maintenance requirements were included in the permit.

15A NCAC 02D .0521 "Control of Visible Emissions"

[1] Permitted fuels coal, TDF, wood, natural gas, and fuel oils.
[2] Permitted fuels coal and No. 2 fuel oil.

Visible emissions (VE) standards provided in this regulation are applicable to any stack, vent, or outlet. This regulation limits visible emissions to no more than 20 percent opacity when averaged over a six-minute period, except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. Compliance with this standard is expected.

The associated permit condition will require that CPI make a monthly VE observation and submit a semi-annual summary report. The Permittee will also be required to determine "normal" visible emissions within the 30 days of commencement of operation.

Any Other Regulatory Applicability

The facility will continue to be subject to "state-only" requirement under 02D .0522 for odorous emissions that can cause or contribute to objectionable odors beyond the property limits.

Separately, applicability to PSD needs to be investigated for this new rail tie grinder as the facility is an existing major stationary source in accordance with this regulation. It needs to be stated here that the DAQ has permitted an identical rail tie grinder with water spray bars (ID No. RTG-1) through an air quality permit 05884T19 on February 12, 2016 (application receipt date November 19, 2015). The application for the second rail tie grinder with the water spray bars (ID No. RTG-2) was submitted, as stated above, on April 8, 2016 (DAQ receipt date the same as submittal date), which is less than five months from the submittal of the application for the first rail tie grinder. The EPA considers "filing of more than one minor source or minor modification application associated with emissions increases at a single plant within a short time period"[3] as one of the critical criteria for determining whether the source (facility) is circumventing PSD requirements. The EPA believes that "if a source files more than one minor source permit application simultaneously or within a short time period of each other, this may constitute strong evidence of an intent to circumvent the requirements of preconstruction review."[4]

The DAQ agrees with the EPA and believes that filing of two separate applications for two identical tub grinders (rail tie grinders) in the span of less than five months, as described above, need to be reviewed as a single project for PSD applicability.

Using the following equation[5], the PM10 emissions from the rail tie grinders can be estimated:

PM10, lbs/yr = (throughput, tons/yr) x (0.024 lb PM/ton wood processed) x (0.60 lb PM10/lb PM) x (0.50)

This equation incorporates following factors: (i) assumption of approximately 60% PM emissions are PM10 and (ii) water suppression will provide 50% abatement of particulate emissions control.

The maximum process rate for each of the rail tie grinders (RTG-1 and RTG-2) is 60 tons/hr. Assuming the worst-case scenario to estimate the potential to emit,

PM10 emissions = [(60 tons/hr x 8760 hrs/yr x 2) x (0.024 lb PM/ton wood processed) x (0.6 lb PM10/lb PM) x (0.50)] / [2000 lbs/ton]

= 3.78 tons/yr for two grinders

[3] *Applicability of New Source Review Circumvention Guidance to 3M – Maplewood, MN*, Memorandum from John B. Rasnic, Director, Stationary Source Compliance Division, OAQPS, EPA, to George T. Czerniak, Chief, Air Enforcement Branch, EPA Region V, June 17, 1993.
[4] Ibid at footnote 3.
[5] Chapter 11.13 *Tub Grinders*, Permit Handbook, Bay Area Air Quality Management District, http://www.baaqmd.gov/~/media/Files/Engineering/Permit%20Handbook/BAAQMD%20Permit%20Handbook.ashx?la=en.

If the water suppression is not available or utilized, the PM10 emissions would be 7.56 tons/yr. Assuming that all PM10 emissions are PM2.5 (worst-case conservative estimate), the PTE for PM2.5 for these (two) rail tie grinders is 7.56 tons/yr, which is less than the significance threshold of 10 tons/yr. So, this project (comprising of two identical grinders) is deemed "minor" for PSD. No further review is required.

7. Attainment Status, PSD, CAM, and 112(r)

PSD

The County of Brunswick is in attainment or unclassifiable/attainment for all promulgated National Ambient Air Quality Standards (NAAQS) in accordance with §81.334. PSD program applies to any major stationary source and any major modification to an existing major stationary source in this County.

The CPI Southport facility is an existing "major stationary source" for PSD. This renewal application or any changes discussed in this application review do not amount to any "physical change or change in the method of operation" for any permitted sources.

Finally, the Brunswick County is triggered for both SO_2 and PM_{10} with respect to minor source baseline date. However, this modification (renewal permit issuance) does not affect these triggered pollutants.

Compliance Assurance Monitoring (CAM)

The current permit includes a CAM plan for six electric power producing boilers for emissions of PM, controlled by bagfilters. The changes requested to the QIP threshold have been discussed in Section 5 above.

112(r)

The Permittee does not store on-site any regulated compound in quantities exceeding the threshold levels, as per the application.

8. Facility-wide Emissions

The following Table includes facility wide emissions. Actual emissions are taken from the emission inventory, as submitted to DAQ for 2014.

Pollutant	**Actual Emissions** Tons/year
Particulate (TSP)	315.65
Particulate (PM-10)	203.08
Particulate (PM-2.5)	106.12
Carbon Monoxide	1537.80
Nitrogen Oxides	880.01
Sulfur Dioxide	4090.00
Volatile Organic Compounds	11.39
GHG as CO_2e	Not Available
Single Largest HAP (HF)	12.5

Total HAP	72.50

9. Public Notice/EPA and Affected State(s) Review

Pursuant to 15A NCAC 02Q .0521, a notice of the DRAFT Title V Permit will be placed on the NCDEQ (North Carolina Department of Environmental Quality) website on xx. The notice will provide for a 30-day comment period with an opportunity for a public hearing. Copies of the public notice will be sent to persons on the Title V mailing list and the EPA on xx. Pursuant to 15A NCAC 02Q .0522, a copy of the proposed permit (in this case, the draft permit) will also be provided on the same day to the EPA for their 45-day review. Also pursuant to 02Q .0522, a notice of the DRAFT Title V Permit will be provided to each affected State at or before the time notice provided to the public under 02Q .0521 above. A copy of the final permit will also be provided to the EPA upon issuance as per 02Q .0522.

10. Stipulation Review

The following changes were made to the CPI USA North Carolina – Southport Plant Air Quality Permit No. 05884T20:

Old Page No. [Air Permit No. 05884T20]	**New Page No.** [Air Permit No. 05884T21]	**Condition No.**	**Changes**
3	3	Section 1 Table	Include a reference for MACT Subpart DDDDD for existing boilers. Include footnotes for both case-by-case MACT and MACT 5D w/r/t compliance dates. Include a new rail tie grinder (RTG-2).
5	5	Section 2.1 A. Table	Remove opacity as regulated pollutant for NSPS Subpart Db. The regulated pollutant is particulate matter and not opacity. Remove applicability of vacated CAIR requirements for annual and ozone season NOx and annual SO_2. Include applicability of CSAPR requirements for both annual and ozone season NOx and annual SO_2.
8	8	Section 2.1 A.2.d. and e.	Switch the Section numbers for NOx and opacity limits.
10	10	Section 2.1 A.3.j.	Modify this Section to include a streamlined monitoring requirement for CO via Sections 2.1 A.4.j-k.
12	12	Section 2.1 A.4.i.	Clarify the streamlined monitoring requirements for PM (PM_{10}), SO_2, sulfuric acid mist and NOx, via Section 2.1 A.1.c, A.2.f-j and n, and A.3.g-i.
12	12	Section 2.1 A.4.j.	Make it Section 2.1 A.4.l. and clarify the reporting requirement for PM_{10}, SO_2, sulfuric acid mist and NOx, is via Section 2.1 A.1.d, 2.1 A.2.p, and 2.1 A.3.k-l.
-	12	Sections 2.1 A.4.j. and k.	Include these new Sections for CO monitoring requirement.
-	12	Section 2.1 A.4.m.	Include this new Section for semi-annual

			reporting requirement for CO.
16	15	Section 2.1 A.6.c.	Clarify that the excursion defining in the form of visible emissions exceeding 15 percent limit does not include start-up, shutdown, and malfunction periods. Replace the existing QIP threshold with the following threshold: accumulation of excursions exceeding 1 percent duration of the operating time for a six-month reporting period.
17	16	Section 2.1 A.6.d.	Clarify that the excursion defining in the form of visible emissions exceeding 15 percent limit does not include start-up, shutdown, and malfunction periods.
17	17	Section 2.1 A.7.a.	Clarify the applicability time periods for both §§112(j) and (d) standards.
-	27	Section 2.1 A.9.	Include a new applicable requirement under federal-only CSAPR.
-	27	Section 2.1 A.10.	Include a new applicable requirement under §112(d) (40CFR 63 Subpart DDDDD).
28	32	Section 2.1 B.1.c.	Include a requirement to establish "normal" emissions for sources (ES-3A and ES-3B) within 30 days of issuance of the air permit (05884T20).
-	38	Section 2.1 F.	Include a new rail tie grinder (RTG-2).
36, 37	-	Section 2.2	Remove these vacated CAIR permit requirements.

11. Conclusions, Comments, and Recommendations

- The application does not include any new control devices. Hence, PE seal requirement is not applicable pursuant to 02Q .0112.

- The application does not include any new or modified emissions sources and/or control devices. So, local zoning consistency determination requirement is not applicable pursuant to 02Q .0507(d).

- The draft permit was emailed to the Wilmington Regional Office for review on April 5, 2016. Russell Morgan emailed on April 11th with a couple of editorial corrections / typographical errors to the draft permit and the application review, which will be performed.

- The draft permit was emailed to the applicant for review on April 5 and July 15, 2016. Rahul Thaker (DAQ) spoke with David Groves and Ginny Grace, both from CPI, on July 20th and clarified the monitoring requirement as written in Section 2.1 A.4.j. of the draft permit with respect to CO monitoring. No change to the drafted stipulation is required.

- This permit engineer recommends issuing the initial Title V permit upon completion of both the public and EPA review periods.